Fishery Management Report No. 05-14

Aleutian Islands and Atka-Amlia Islands Management Areas Salmon Management Report, 2004

by

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and

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April 2005

Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mideye-to-fork	MEF
mideye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	$\log_2$, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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by

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ABSTRACT

This report presents salmon harvest and escapement information for the Aleutian Islands and Atka-Amlia Islands Management Areas. The Aleutian Islands and Atka-Amlia Islands Management Areas includes all state waters surrounding the Aleutian Islands west of Unimak Island. In 2004, commercial salmon harvests did not occur in either the Aleutian Islands Area or the Atka-Amlia Islands Area.

Sockeye salmon *Oncorhynchus nerka* dominated the subsistence salmon harvest in the Adak and Unalaska Districts. In 2004, the estimated Unalaska District subsistence salmon harvest was 4 Chinook *O. tshawytscha*, 4,373 sockeye, 792 coho *O. kisutch*, 343 pink *O. gorbuscha*, and 26 chum *O. keta* salmon. The estimated Adak District subsistence harvest was 336 sockeye salmon.

There was almost no salmon escapement information in the Aleutian Islands and Atka-Amlia Islands Areas during 2004. The United States Fish and Wildlife Service operated a weir at Mclees Lake on Unalaska Island and recorded a sockeye salmon escapement of 40,327 fish.

Key words: Aleutian Islands, Atka-Amlia Islands, commercial salmon harvest, subsistence salmon harvest

INTRODUCTION

The Aleutian Islands Management Area includes the waters of Alaska west of Unimak Island, including the Pribilof Islands, but excluding the Atka-Amlia Islands Management Area, which encompasses all Aleutian Islands waters between Seguam Pass (172°50.00' W. long.) and Atka Pass (Figure 1; 175°23.00' W. long., 5 AAC 11.101; 5 AAC 12.100)

The Aleutian Islands and Atka-Amlia Management Areas are part of a larger area, which includes the Alaska Peninsula Management Area, where an Area M purse seine salmon permit is valid (Figure 1; ADF&G 2004). Seining is the only legal method to commercially harvest salmon in the Aleutian Islands Area (5 AAC 12.330). Legal harvest methods for the Atka-Amlia Islands Management Area, Area F, include both set gillnetting and purse seining (5 AAC 11.333). To date, only set gillnet fishermen have reported commercial salmon harvests from the Atka-Amlia Islands Area (Shaul and Dinnocenzo 2004).

Commercial salmon harvest records for these areas date back to 1911 (Table 1). Pink salmon *Oncorhynchus gorbuscha* are the dominant species in the Aleutian Islands, and runs tend to be stronger during even-numbered years (Shaul and Dinnocenzo 2004). In recent years, nearly all of the commercial harvest in the Aleutian Islands Area occured around Unalaska Island. The Atka-Amlia Islands Management Area was created by the Alaska Board of Fisheries (BOF) in 1992 and small commercial harvests occurred from 1992 through 1994. There has been only one year (2000) with a commercial harvest since 1995 in either area (Table 1).

COMMERCIAL SALMON FISHING

Runs of sockeye *O. nerka*, coho *O. kisutch*, pink, and chum *O. keta* salmon occur in Aleutian Island streams. However, pink salmon have been the most commercially important species during most years (Table 1). Harvest data from the early years of the fisheries may not be accurate because numbers of fish were estimated from the number of cases of salmon canned.

Most commercial fishing effort has occurred near Unalaska Island (Figure 2), except for occasional fishing near Umnak Island during the 1950s and early 1960s, and a fishing expedition to Attu Island in 1963 (Shaul and Dinnocenzo 2004). Only a few salmon, primarily pink salmon, were landed in the Atka Island fishery in 1992, 1993, and 1994 (Table 2; Holmes 1995).

Markets often limit commercial salmon harvests in both the Unalaska Island and Atka-Amlia Island fisheries. Prior to 1979 some fish (usually sockeye salmon) were salted by fishermen. Processors located at Unalaska-Dutch Harbor or Akutan purchased most of the commercially harvested salmon from 1979 through 1988. Due to the decline in demand for pink salmon during recent years, most of the harvest since 1994 has been transported to the Alaska Peninsula for canning. In recent years, Unalaska markets only developed if pink salmon abundance and prices warranted the cost of tenders traveling from King Cove, or if a floating processor moved into the area. The average harvest in the years 1994-2003 was 111,558 salmon, composed of 5 Chinook *O. tshawytscha*, 1 sockeye, 6 coho, 111,484 pink, and 62 chum salmon (Table 1).

Aleutian Islands pink salmon runs tend to be much larger during even-numbered years (Shaul and Dinnocenzo 2004). The average Aleutian Islands Area even-year harvest for 1984-2002 was 424,276 fish; the odd-year average pink salmon harvest for 1985-2003 was 679 fish (Table 1). Often there is little commercial harvest during odd-numbered years. The largest Aleutian Islands Area pink salmon harvest, 2,597,502 fish, was taken in Unalaska Island waters in 1980. Of these, approximately 2.0 million pink salmon were harvested in Makushin Bay (Figure 2). The Nateekin River, in Unalaska Bay, can produce relatively large runs during both odd and even years.

SUBSISTENCE SALMON FISHING

Subsistence salmon fishing is very important to Aleutian Islands communities (Tables 3 through 5; Veltre and Veltre 1981, 1983; L. Scarborough, Alaska Department of Fish and Game, Anchorage, personal communication). However, due to the remoteness of most villages, subsistence salmon fishing permits are only required in the Unalaska and Adak Districts (5 AAC 01.380; Shaul and Dinnocenzo *in press*). Unalaska and Adak are the only communities from which subsistence information (from returned permits) is compiled on an annual basis.

Subsistence fishing effort at Unalaska has increased considerably in recent years. The number of permits increased from 65 in 1985 to a high of 231 in 2002 (Table 3). Since then the number of permits issued has declined slightly but remains fairly high necessitating additional subsistence restrictions (increased closed waters) in some areas to protect salmon stocks.

Sockeye salmon are the preferred species in the Unalaska subsistence fishery (Table 3). The average sockeye salmon harvest has generally increased and ranged from 897 fish in 1985 to a high of 5,267 fish in 2002 (Table 3). In 2004, the Unalaska District sockeye salmon harvest was an estimated 4,373 fish. Most of the sockeye salmon harvested in recent years came from Reese Bay (presumably bound for McLees Lake; Figure 3).

The BOF eliminated subsistence salmon fishing in the Adak District from 1988 through 1997 and created a personal use salmon fishery for Adak and Kagalaska Islands (Table 4). The fishing effort declined during 1993 to 1996, when the U.S. Navy phased out operations, but rebounded in 1997 with an increase in the civilian population. In 1998, the BOF reinstated subsistence salmon fishing in the Adak District. From 1998 through 2003, the number of Adak District subsistence permits issued has averaged 10 and ranged from 3 in 2002 to 17 in 2001. In 2004, 6 subsistence salmon permits were issued in the Adak District (Table 4).

In the past, Atka subsistence data were collected by interviews conducted by the ADF&G Subsistence Division. Due to budget reductions, the last survey was conducted in 1994. In 1994, 28 of 29 households were surveyed. The 1994 Atka subsistence harvest was an estimated 2,504

salmon, comprising 12 Chinook, 431 sockeye, 567 coho, 1,387 pink, and 107 chum salmon (Shaul and Dinnocenzo 2004).

SALMON ESCAPEMENT

Streams on Unalaska, Umnak, Unimak, Atka, Amlia, Adak, and Attu Islands produce large pink salmon runs during some years. Tanaga, Kanaga, and Kiska Islands each have at least one important pink salmon stream. There are no known Chinook salmon producing streams in the Aleutian Islands and Atka-Amlia Islands Management Areas.

There is very little salmon escapement information for the Aleutian Islands and Atka-Amlia Islands Areas. Poor weather, remoteness, unavailability of suitable aircraft, and the high cost of aircraft charters limit surveys. The United States Energy Research and Development Administration conducted limited studies on Amchitka Island in 1977 (Seimenstad et al. 1977; Valdez et al. 1977). A comprehensive salmon escapement and distribution study of the entire Aleutian chain was conducted by ADF&G in 1982 (Holmes 1997). ADF&G conducted repetitive surveys on some Atka and Amlia Islands streams in 1992, 1993, and 1994 (Holmes 1995). The U.S. Fish and Wildlife Service (FWS) conducted salmon abundance and distribution research on Adak Island in 1993 and 1994 (Palmer 1995).

In response to an oil spill from the grounding of the M/V Kuroshima, a weir was operated by ADF&G at Summer Bay Lake, on Unalaska Island, from 1998 through 2001 (Honnold et. al. 1999; McCullough 2000; and McCullough and Bouwens *in press*). FWS also operated a weir at McLees Lake on Unalaska Island from 2001 through 2003 and plans to continue to operate it in the near future (Palmer 2003). These weir projects documented larger runs of sockeye salmon than had been previously observed in these streams. The small numbers of coho salmon counted through the weir at Summer Bay Lake did generate some management concern.

The migration timing of Aleutian Island pink salmon into freshwater varies considerably between years and streams (McCullough 2002). Pink salmon often begin entering streams in late July and may continue to arrive throughout September at both Atka and Unalaska Islands during large runs (usually even years). During some years pink salmon are not observed in streams until mid August. Observations by FWS indicate a similar run timing at Adak Island (Palmer 1995). Aleutian Islands pink salmon are usually of smaller size than those of Alaska Peninsula stocks (Shaul and Berceli 1995), however, Unalaska Island pink salmon were larger than Alaska Peninsula pink salmon in 2000 (Shaul and Dinnocenzo 2001).

2004 SEASON

The commercial salmon fishery in the Aleutian Islands and Atka-Amlia Areas was managed by the ADF&G staff in Cold Bay. Unalaska District salmon subsistence permits were issued by the ADF&G staff in Dutch Harbor while Adak salmon subsistence permits were issued by ADF&G in Cold Bay.

COMMERCIAL HARVEST

There were no commercial salmon landings in the Atka-Amlia Islands and Aleutian Island Areas in 2004 (Table 1).

SUBSISTENCE AND PERSONAL USE HARVEST

A total of 209 subsistence permits were issued for the Unalaska District in 2004 (Table 3), which was 18 permits less than in 2003 and 8 permits less than the 1999-2003 average number of 217 permits. A total estimated harvest of 5,538 salmon occurred in 2004, which was less than the 5,878 salmon harvested in 2003 but higher than the 1999-2003 average estimated harvest of 5,081 salmon.

The total 2004 Unalaska Island sockeye salmon harvest was an estimated 4,373 fish of which 3,771 (86%) were caught at Reese Bay (McLees Lake stock; Tables 3 and 5; Figure 3). This was the fourth highest sockeye salmon subsistence harvest on record (1995, 2002, and 2003 were higher) for the Unalaska District (Shaul and Dinnocenzo *in press*). Unalaska Lake sockeye salmon are a very important subsistence resource to local residents who cannot travel to other places to harvest fish. In 2004, the sockeye salmon harvested near the stream terminus of Unalaska Lake was an estimated 235 fish (5% of the Unalaska Island total sockeye salmon harvest; Table 5).

In 2004, an estimated 792 coho salmon were harvested by subsistence fishermen on Unalaska Island, of which 619 (78%) were harvested in Broad Bay (Figure 3; Tables 3 and 5). The pink salmon subsistence harvest around Unalaska Island in 2004 was an estimated 343 fish (Table 3). Chinook and chum salmon are not abundant in Unalaska Island waters and account for only a small portion of the subsistence harvest (Table 3). In 2004, an estimated 4 Chinook and 26 chum salmon were caught in the Unalaska District subsistence fishery.

Only 6 Adak District subsistence salmon permits were issued in 2004, the same number of permits issued in 2003. The Adak subsistence salmon harvest was 336 sockeye salmon, (Table 4) which was slightly above the 1998-2003 average harvest of 303 fish.

Additional subsistence information may be found in the Annual Summary of the Commercial and Subsistence Salmon Fisheries for the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Areas, 2004 (Shaul and Dinnocenzo *in press).*

ESCAPEMENTS

Very little escapement data was collected in 2004. No aerial stream surveys were conducted due to adverse weather and the long distance from Cold Bay. An attempt was made to survey with the ADF&G Cessna 185 from Cold Bay on September 3. Despite a good weather forecast and good weather reports, conditions deteriorated by the time the surveyors arrived in the area, forcing them to return to Cold Bay. Foot surveys of 5 Unalaska Bay streams in the Dutch Harbor vicinity indicated good escapements of pink salmon to those streams (Table 6). Summer Bay Lake had a healthy sockeye salmon escapement. An estimate of sockeye salmon in Unalaska Lake was not possible.

During 2004, the FWS installed and operated a weir at the outlet of McLees Lake (which empties into Reese Bay) from June 1 through July 26 (Table 7; Figure 3). A total of 40,327 sockeye salmon were counted through the weir. This was the smallest escapement documented at the McLees Lake weir (2001 to 2004; Duesterloh *in press*), but still well above the aerial enumerated management objective of 4,000-6,000 fish. The 2003 sockeye salmon escapement of 101,793 fish is the highest on record. Aerial surveys confirmed that the sockeye salmon escapements into McLees Lake during 2001 and 2002 were unusually large, however, in 2003 it was not possible to survey McLees Lake until September 1, when most of the fish had died off and in 2004 a survey did not occur.

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TABLES AND FIGURES

Table 1.-Aleutian Islands Area (excluding Atka-Amlia Islands Area) commercial salmon harvests in numbers of fish by year, 1911 to 2004.

Year	Chinook[a]	Sockeye[a]	Coho[a]	Pink[a]	Chum[a]	Total[a]
1911	0	9,300	0	0	0	9,300
1912-1915	0	0	0	0	0	0
1916	0	76,500	1,200	180,300	100	258,100
1917	0	70,400	3,800	600	23,100	97,900
1918	0	55,200	4,400	75,600	135,200	270,400
1919	0	3,900	800	4,000	0	8,700
1920	0	10,100	2,800	0	0	12,900
1921	0	0	0	0	0	0
1922	0	14,000	0	0	0	14,000
1923	0	0	0	0	0	0
1924	0	24,900	0	673,800	100	698,800
1925	0	18,600	0	3,800	9,100	31,500
1926	0	1,300	0	521,700	7,800	530,800
1927	0	17,300	0	334,600	0	351,900
1928-1950[b]						
1951	0	11,700	400	500	94,500	107,100
1952	200	42,800	0	31,800	25,700	100,500
1953	0	4,200	500	69,200	800	74,700
1954	0	6,300	800	566,500	200	573,800
1955	0	12,600	100	31,100	400	44,200
1956	0	400	0	33,900	0	34,300
1957	2,300	27,300	100	500	13,900	44,100
1958	0	300	0	613,200	3,700	617,200
1959	0	6,100	0	12,000	100	18,200
1960	0	7,600	0	444,900	300	452,800
1961	0	2,700	0	94,000	200	96,900
1962	0	5,500	100	2,001,700	1,200	2,008,500
1963	0	4,500	0	93,900	300	98,700
1964	0	200	0	194,100	2,300	196,600
1965	0	0	0	0	0	0
1966	0	1,000	0	63,500	700	65,200
1967	0	200	0	7,900	0	8,100
1968	0	2,000	100	902,800	800	905,700
1969	0	1,900	0	242,200	1,500	245,600
1970	6	208	135	644,121	3,029	647,499
1971	0	333	2	45,141	58	45,507
1972	0	69	1	2,784	6	2,860
1973	0	0	0	2,042	0	2,042
1974	0	0	0	0	0	0
1975	0	19,402	0	659	1,881	21,942
1976-1977	0	0	0	0	0	0
1978	0	1,829	0	38,109	6	39,944
1979	0	12,206	0	539,393	242	551,841

-continued-

Table 1.-Page 2 of 2.

Year	Chinook[a]	Sockeye[a]	Coho[a]	Pink[a]	Chum[a]	Total[a]
1980	2	9,226	0	2,597,502	4,874	2,611,565
1981	16	5,430	188	302,786	6,553	314,973
1982	0	2,672	28	1,447,818	6,148	1,456,666
1983	0	4,405	0	2,005	11,361	17,771
1984	26	67,163	1,923	2,309,665	33,025	2,410,802
1985	40	2, 750	0	90	14,175	17,055
1986	11	7,702	60	42,621	38,819	89,213
1987	0	75	0	0	0	75
1988	0	4,315	7	183,109	450	187,881
1989	0	8,248	0	6,700	0	14,948
1990	0	12,435	74	282,823	1,038	296,372
1991	0	796	0	0	0	796
1992	0	3,082	0	312,072	1,230	316,348
1993	0	0	0	0	0	0
1994	47	6	0	858,787	617	859,457
1995-1999	0	0	0	0	0	0
2000	1	0	59	256,050	0	256,110
2001-2004	0	0	0	0	0	0
Average 1994-2003	5	1	6	111,484	62	111,558
Odd-Year Average Pink Harvest, 1985-2003				679		
Even-Year Average Pink Harvest, 1984-2002				424,276		

[a] Numbers of fish harvested prior 1940 were probably estimated from case pack records.

[b] The Aleutian Islands harvests cannot be separated from those of the Alaska Peninsula Area during 1928-1950.

Table 2.-Atka-Amlia Islands Area commercial salmon harvests in numbers of fish, by year, 1992 to 2004.

Year	Permits	Landings	Chinook	Sockeye	Coho	Pink	Chum	Total
1992	13	41	0	231	42	7,972	308	8,553
1993	9	10	0	24	4	145	563	736
1994	6	7	0	16	0	896	0	912
1995	8	0	0	0	0	0	0	0
1996	10	0	0	0	0	0	0	0
1997	7	0	0	0	0	0	0	0
1998-2004	0	0	0	0	0	0	0	0
Average 1994-2003	3	1	0	2	0	90	0	91

Table 3.-Estimated subsistence harvest for Unalaska Island, 1985 to 2004.

Year	Permits Issued	Permits Returned	Chinook	Sockeye	Coho	Pink	Chum	Total
UNALASKA LOCAL COMMUNITY RESIDENTS[a]								
1985	65	28	0	897	208	1,293	20	2,418
1986	121	22	0	3,449	847	2,468	375	7,139
1987	81	49	0	1,097	378	1,780	151	3,406
1988	74	43	1	962	390	2,626	83	4,062
1989	70	41	2	1,064	470	1,292	36	2,864
1990	94	36	4	2,357	681	1,428	100	4,570
1991	89	48	0	1,294	666	1,075	45	3,080
1992	144	102	7	2,739	587	1,723	11	5,067
1993	137	102	17	2,831	697	587	136	4,268
1994	150	120	1	2,759	774	1,053	48	4,635
1995	159	129	23	4,446	480	784	23	5,756
1996	189	123	5	1,107	1,033	492	49	2,686
1997	218	161	8	4,192	864	440	110	5,614
1998	206	161	4	3,317	731	729	26	4,807
1999	208	140	0	2,707	1,327	1,018	13	5,065
2000	205	142	7	3,073	569	315	24	3,988
2001	201	140	4	3,850	563	763	100	5,280
2002	226	156	2	5,267	643	277	63	6,252
2003	220	149	27	4,814	558	408	41	5,848
2004	207	141	4	4,343	792	343	26	5,508
Average 1999-2003	**212**	**145**	**8**	**3,942**	**732**	**556**	**48**	**5,287**
UNALASKA-RESIDENTS RESIDING OUTSIDE OF UNALASKA DISTRICT[a]								
1985	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0
1988	3	2	2	4	0	1	0	7
1989	4	1	0	48	0	0	0	48
1990	2	1	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0
1993	2	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0
1995	1	0	0	38	4	7	0	49
1996	0	0	0	0	0	0	0	0
1997	3	2	0	0	0	114	0	114
1998	0	0	0	0	0	0	0	0
1999	3	2	0	0	0	0	0	0
2000	7	6	0	4	1	10	0	15
2001	2	1	0	0	0	0	0	0
2002	5	3	0	0	0	0	0	0
2003	7	7	0	30	0	0	0	30
2004	2	1	0	30	0	0	0	30
Average 1999-2003	**5**	**4**	**0**	**7**	**0**	**2**	**0**	**9**
TOTAL UNALASKA[a]								
1985	65	28	0	897	208	1,293	20	2,418
1986	121	22	0	3,449	847	2,468	375	7,139
1987	81	49	0	1,097	378	1,780	151	3,406
1988	77	45	3	966	390	2,627	83	4,069
1989	74	42	2	1,112	470	1,292	36	2,912

-continued-

Table 3.-Page 2 of 2.

Year	Permits Issued	Permits Returned	Chinook	Sockeye	Coho	Pink	Chum	Total
TOTAL UNALASKA[a] (Continued)								
1990	96	37	4	2,357	681	1,428	100	4,570
1991	89	48	0	1,294	666	1,075	45	3,080
1992	144	102	7	2,739	587	1,723	11	5,067
1993	139	102	17	2,831	697	587	136	4,268
1994	150	120	1	2,759	774	1,053	48	4,635
1995	160	129	23	4,484	484	791	23	5,805
1996	189	123	5	1,107	1,033	492	49	2,686
1997	221	163	8	4,192	864	554	110	5,728
1998	206	161	4	3,317	731	729	26	4,807
1999	211	142	0	2,707	1,327	1,018	13	5,065
2000	212	148	7	3,077	570	325	24	4,003
2001	203	141	4	3,850	563	763	100	5,280
2002	231	159	2	5,267	643	277	63	6,252
2003	227	156	27	4,844	558	408	41	5,878
2004	209	142	4	4,373	792	343	26	5,538
Average 1999-2003	**217**	**150**	**3**	**3,644**	**767**	**622**	**45**	**5,081**

[a] Harvest estimated by extrapolating the catches from returned permits to the total number of permits issued.

Table 4.-Adak-Kagalaska Islands estimated personal use harvest, 1988 to 1997 and Adak District estimated subsistence harvest 1998 to 2004.

Year	Permits Issued	Permits Returned	Percent Returned	Chinook	Sockeye	Coho	Pink	Chum	Total
Personal Use[a]									
1988	43	29	67	0	503	23	150	0	676
1989	64	47	73	0	382	0	117	0	499
1990	61	29	48	0	800	47	41	0	888
1991	37	31	87	0	281	6	34	0	321
1992	52	41	79	0	572	30	4	0	606
1993	4	3	75	0	156	0	0	0	156
1994 [b]	0	0	0	0	0	0	0	0	0
1995	4	3	75	0	156	0	0	0	156
1996	6	6	100	0	91	0	0	0	91
1997 [c]	18	12	67	0	229	0	0	4	233
1988-1997 [d] Average	29	20	67	0	317	11	35	0	363
Subsistence[a]									
1998	13	10	77	0	399	0	25	0	424
1999	5	5	100	0	164	4	0	0	168
2000	13	12	92	0	265	4	78	0	347
2001	17	14	82	0	474	19	17	0	510
2002	3	3	100	0	150	0	0	0	150
2003	6	5	83	0	363	0	0	0	363
2004	6	4	67	0	336	0	0	0	336
1998-2003 Average	10	8	89	0	303	5	20	0	327

[a] Harvest estimated by extrapolating the catches from returned permits to the total number of permits issued.

[b] U. S. Navy personnel reduced at Adak, personal use permits not requested.

[c] In 1997, a substantial number of civilians were hired by the navy to work in a cleanup effort at Adak.

[d] Average includes 1994.

Table 5.-Estimated Unalaska Island subsistence sockeye and coho salmon harvests by major location, 2004.

Location	Estimated Permits[a]	Species	Fish
Reese Bay (Wislow)	86	Sockeye	3,771
Broad Bay	34	Coho	619
Nateeken Bay	6	Coho	56
Captains Bay	3	Sockeye	23
		Coho	21
Unalaska Lake vicinity	14	Sockeye	235
		Coho	32
Other locations	NA	Sockeye	344
		Coho	64

[a] The number of successful permit holders and salmon harvested are extrapolated from returned permits. Many permit holders fish in more than one location and could be listed multiple times in this table.

Table 6.-Salmon escapement survey counts in the Aleutian Islands Area, 2004.

Stream	Date	Observer	Location	Visibility	Species					Observer Remarks
					Chinook	Sockeye	Coho	Pink	Chum	
Nateekin River, 302-4005										
	09/16/2004	Burt/Bon	Stream Mouth Bay	G	0	2	250	7,210	0	NUMBER OF DEAD PINKS WAS GREATER THAN 15,000. NUMBER OF DOLLIES WAS APPROXIMATELY 1,000. FIRST SOCKEYE SEEN WAS NEAR MOUTH OF THE RIVER AND THE OTHER ONE WAS SEEN AT THE 2 MILE NO FISHING MARKER.
Pyramid Creek, 302-4007										
	08/31/2004	Karla Granath	Stream Mouth Bay	G				47		SURVEYED FROM THE MOUTH TO THE FIRST WATERFALL.
	09/15/2004	Myke Bon	Stream Mouth Bay	G	0	0	0	0	0	WATER WAS REAL LOW, NO FISH.
Unalaska Village, 302-4008										
	09/09/2004	Burt/Bon	Stream Mouth Bay	E	0	3,000	0	613	0	SURVEYED THE CREEK FROM THE FISH LADDER (CULVERTS) TO WHERE THE CREEK DUMPS INTO THE LAKE. MORE SOCKEYE WERE IN THE LAKE BUT THE VISIBILITY WAS TOO POOR TO GET A COUNT. DEAD PINKS EQUAL 540. DID NOT SURVEY THE LAKE.
	09/10/2004	Myke Bon	Stream Mouth Bay	G	0	7	0	1,530	0	SURVEYED THE CREEK FROM THE OUTLET OF THE LAKE TO THE SALTWATER. DEAD PINKS EQUAL 385.
	11/05/2004	Rachel Alinsunurin	Stream Mouth Bay	G G	0 0	0 0	80 0	0 0	0 0	55 LIVE AND 9 DEAD FISH WERE IN THE CREEK FROM THE LAKE TO THE SALTWATER, 25 LIVE AND 3 DEAD FISH WERE IN THE CREEK FROM THE FISH PASS TO THE LAKE.
Summer Bay, 302-4009										
	08/31/2004	Ryan Burt	Stream Mouth Bay	G G	0 0	2,873 0	0 0	1,500 0	0 0	OF THE 2,873 SOCKEYE, 200 WERE IN THE LAKE ON THE EAST SIDE AND APPROXIMATELY 2,000 WERE IN THE CREEK WHERE IT DUMPS INTO THE LAKE AND 673 WERE ABOVE THE LAKE INT THE CREEK. LOTS OF FISH. THE LAKE TO BAY OUTLET STREAM HAD NO FISH. DID NOT WALK THE WEST SIDE OF THE LAKE.
	11/05/2004	Ryan Burt	Stream Mouth Bay	P	0	10	50	0	0	STARTED SURVEY BUT BAGGED IT AFTER BOTH BOOTS GOT FULL OF WATER. VISIBILITY WAS VERY POOR ANYWAY. FOUND A GLASS BALL AT THE HEAD OF THE LAKE.

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Table 6.-Page 2 of 2.

Stream	Date	Observer	Location	Visibility	Species					Observer Remarks
					Chinook	Sockeye	Coho	Pink	Chum	
	11/07/2004	Ryan Burt	Stream Mouth Bay	G	0	8	32	0	0	TRIED TO SURVEY AGAIN. I THOUGHT I WOULD SEE A LOT OF COHO BUT THE FISH I SAW TWO DAYS EARLIER WERE NOT THERE. SAW SEVERAL JUMPERS IN THE LAKE. MAYBE THEY MOVED BACK INTO THE LAKE DUE TO THE BRIGHT SUNSHINE.
Humpy Cove(Sum. Bay), 302-4010										
	08/31/2004	Kochuten/Chisum	Stream Mouth Bay	G				5,500		APPROXIMATELY 600 DEAD, SURVEYED FROM THE MOUTH OF THE CREEK UP TO THE BRIDGE.
	09/15/2004	Burt/Bon	Stream Mouth Bay	E	0	0	3	287	0	WE SURVEYED FROM THE MOUTH OF THE CREEK UP TO THE BRIDGE, APPROXIMATELY 4,100 DEAD.
Morse Cove, 302-4011										
	10/11/2004	Kochuten/Chisum	Stream Mouth Bay	G	0	0	0	0	0	

Table 7.-Sockeye salmon daily and cumulative escapement counts through McLees Lake weir, 2004.

Date	Daily Count	Cumulative Count	Date	Daily Count	Cumulative Count
1-Jun	24	24	9-Jul	132	34,438
2-Jun	15	39	10-Jul	1,324	35,762
3-Jun	21	60	11-Jul	117	35,879
4-Jun	125	185	12-Jul	2,303	38,182
5-Jun	50	235	13-Jul	0	38,182
6-Jun	108	343	14-Jul	0	38,182
7-Jun	213	556	15-Jul	541	38,723
8-Jun	71	627	16-Jul	111	38,834
9-Jun	76	703	17-Jul	35	38,869
10-Jun	18	721	18-Jul	44	38,913
11-Jun	693	1,414	19-Jul	85	38,998
12-Jun	491	1,905	20-Jul	34	39,032
13-Jun	270	2,175	21-Jul	94	39,126
14-Jun	498	2,673	22-Jul	7	39,133
15-Jun	453	3,126	23-Jul	1,155	40,288
16-Jun	316	3,442	24-Jul	39	40,327
17-Jun	1,612	5,054	25-Jul	0	40,327
18-Jun	2,779	7,833	26-Jul	0	40,327
19-Jun	6,488	14,321			
20-Jun	1,724	16,045			
21-Jun	1,484	17,529			
22-Jun	1,073	18,602			
23-Jun	811	19,413			
24-Jun	1,048	20,461			
25-Jun	1,169	21,630			
26-Jun	571	22,201			
27-Jun	6,300	28,501			
28-Jun	894	29,395			
29-Jun	1,107	30,502			
30-Jun	907	31,409			
1-Jul	1,059	32,468			
2-Jul	839	33,307			
3-Jul	470	33,777			
4-Jul	46	33,823			
5-Jul	105	33,928			
6-Jul	43	33,971			
7-Jul	318	34,289			
8-Jul	17	34,306			

Note: This weir was funded and operated by U. S. Fish and Wildlife Service. One pink and three chum salmon were also counted through the weir in 2004.

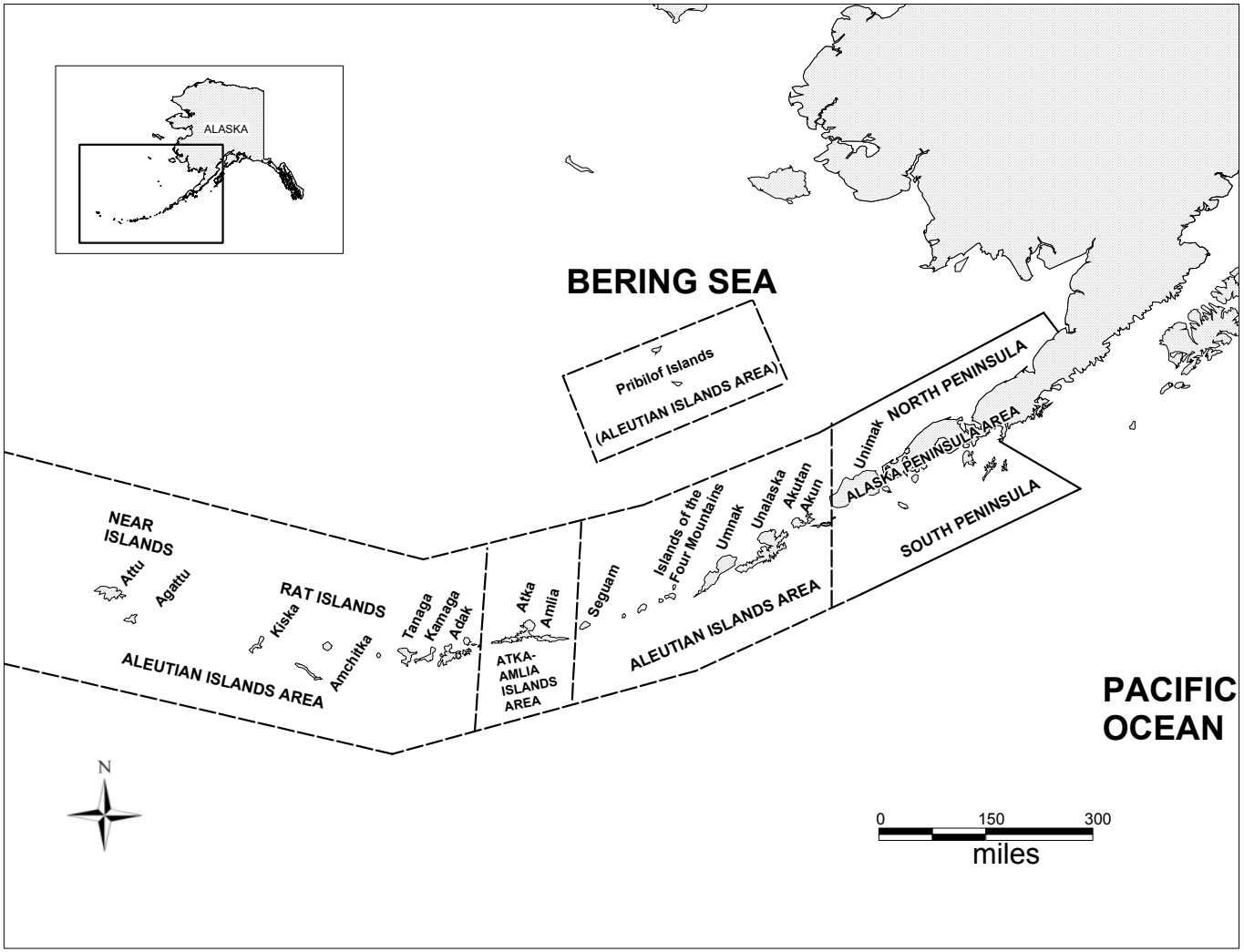

Figure 1.-Map of the Aleutians Islands, Atka-Amlia Islands, and Alaska Peninsula Areas.

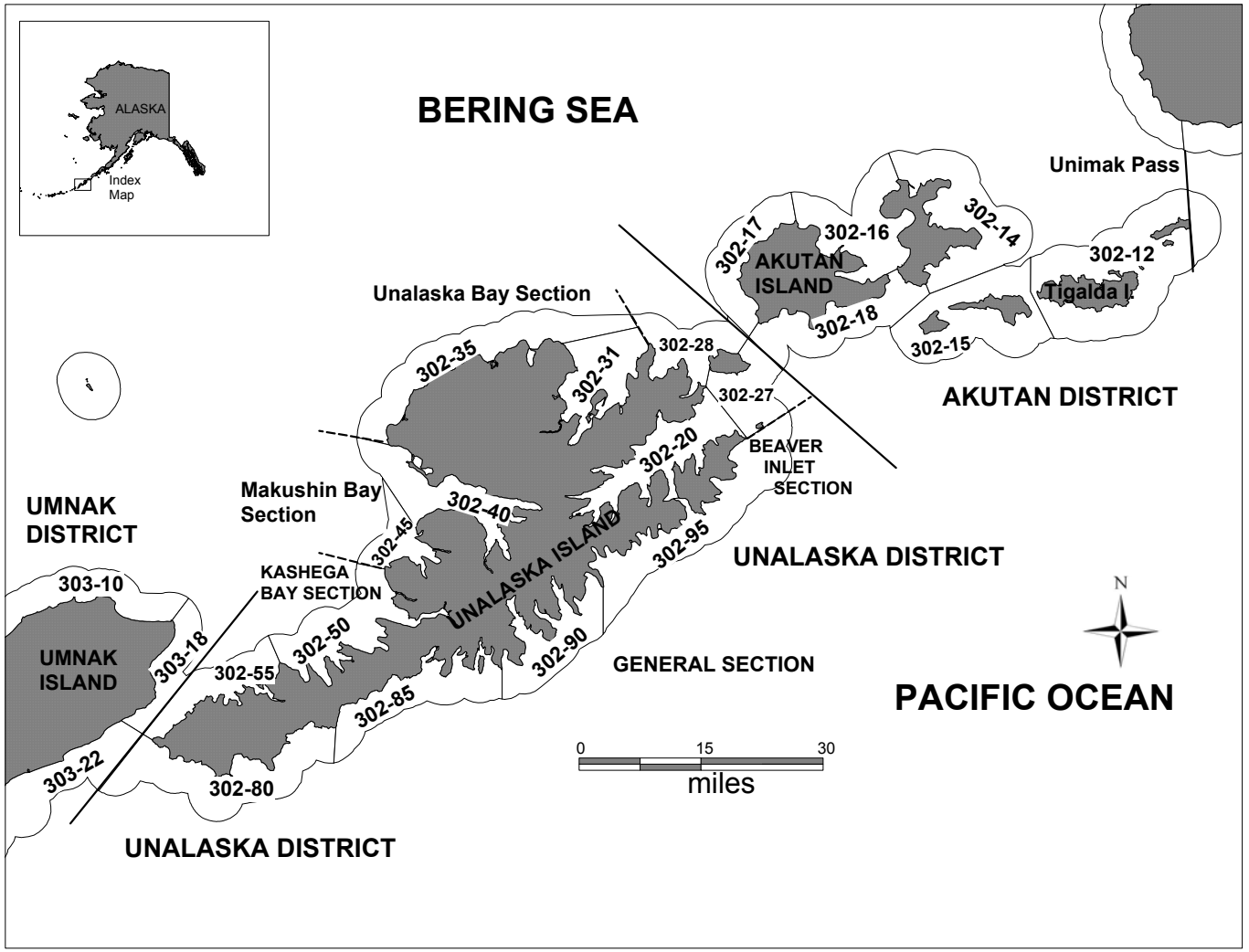

Figure 2.-Map of the Aleutian Islands Management Area from Unimak Pass to Umnak Island, with statistical salmon fishing areas shown.

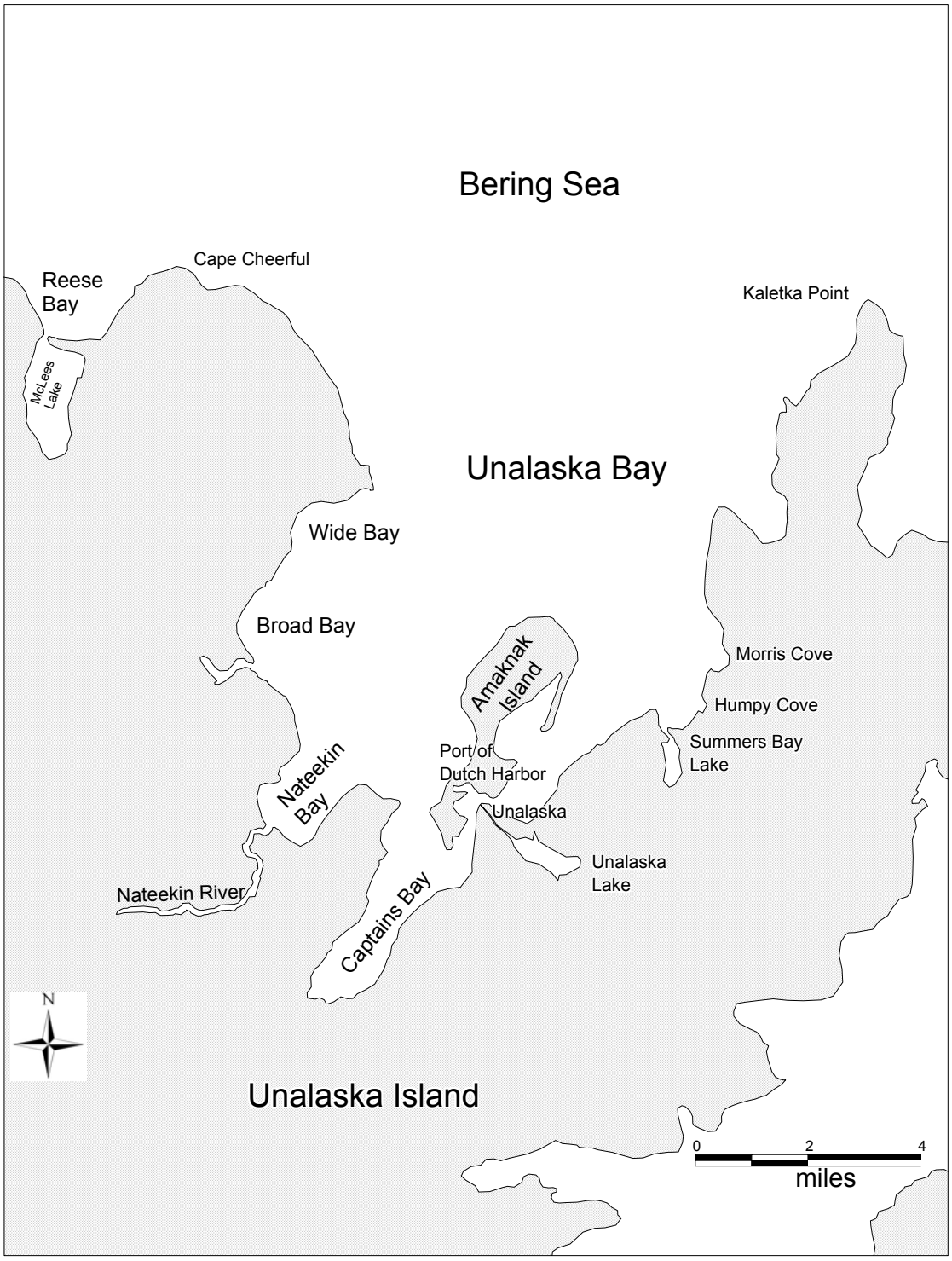

Figure 3.-Map of Unalaska Bay vicinity.